

The currently presented claims are presented in Jepson format in which the preamble is considered to be part of a combination claim. The presently claimed invention is directed to a wall structure that is contained in a building structure subject to government regulations with respect to transverse wind loading. The improvement requires that this wall structure contain a first layer having a density of about 0.5-3 pounds per cubic feet and a second, reinforcing layer selected from the group consisting of a polymer fabric, a biaxially oriented polymeric film and a fiberglass reinforced material directly bonded to the first layer. The preamble of the currently claimed invention requires that the wall structure be contained in a building structure subject to government regulations with respect to transverse wind loading. The present invention allows for the use of a foam or lightweight insulating material without the need of support from wood sheathing or other structural wall sheathing components in hurricane-prone geographic areas. At the present time, builders are forced to eliminate energy-saving foam panel insulating material or must use alternative building methods in order to provide affordable construction. With the present invention, an economically viable alternative is provided that can improve energy efficiency and/or lower the cost of construction in hurricane-prone regions. It is respectfully submitted that the prior art cited by the Examiner does not disclose the presently claimed invention.

The Hartman reference discloses panels for insulating and protecting walls and roofs. These panels consist of a foam layer 12, a backer layer 16 formed of a stereoreticulate material having multiple interstices 30 in communication with the foam layer 12 and a thermoplastic weathering layer 14. As expressly disclosed in this reference, the Hartman reference is concerned with providing an insulating panel for a wall structure and not to a wall structure per se. Additionally,

the stereoreticulate backer layer 16 is formed from reinforcing fibers of asbestos, fiberglass or aluminum and is provided in stereoreticulate form so that its interstices 30 can allow the entry of the resin produced during the foaming process so that the fibers abutting a foam layer are surrounded by foam.

In contrast to Hartman, the presently claimed invention is directed to a wall structure which is contained in a building structure subject to government regulations regarding high wind loading. The present invention does not use a stereoreticulate backer layer formed from asbestos, fiberglass or aluminum. The reinforcing layer of the present invention is prepared from either a polymer fabric, a biaxially oriented polymeric film or a fiberglass reinforced material. The reinforcing layer of the present invention is not a stereoreticulate material formed from asbestos, fiberglass or aluminum having interstices which are of sufficient size to permit entrance of the resin produced during a foaming process into the interstices but not striking entirely through the thickness of the reinforcing layer as is required by Hartman. In fact, specific claims of the present invention are directed to the second reinforcing layer being either a biaxially oriented polymeric film, which by nature is impermeable, or a fiberglass reinforced material. The backer layer 16 of Hartman does not correspond to the reinforcing layer of the present invention.

Canada discloses a self-supporting mat comprising fibers and a binder material which can be compressed, shaped or formed to a permanent, rigid predetermined contoured article for commercial applications such as tote boxes, luggage shells, contoured door panels for automobiles and contoured chair bodies. This reference has been cited to show a multilayer product with fiberglass and a resin binder having an insulating layer with a density of from 0.5 to about 10 pounds per cubic foot. At the outset, Applicant wishes to

point out that there is no reason why one of ordinary skill in the art would attempt to combine the teachings of Canada with the Hartman reference. Canada is concerned with the production of densified rigid articles while Hartman is concerned with the production of flexible insulating panels used for the insulation and protection of walls and roofs. Although this reference discloses that fibers can be disposed in the mat that makes up the final product, the fiber is preferably a wood fiber although other fibers can be confined therewith. More importantly, there is no disclosure in this reference of a discrete second layer formed from a fiberglass reinforced material. Applicant respectfully submits that only hindsight provided by Applicant's own disclosure would motivate one of ordinary skill in the art to attempt to pick and choose bits and pieces out of the Canada reference and attempt to combine it with Hartman. The fact that the Canada reference discloses fibers be incorporated into a material there does not provide the motivation to disregard the stereoreticulate flexible backer layer 16 of Hartman and substitute a fiber reinforced layer therefrom. If the Examiner persists with this rejection, he is respectfully requested to provide a more detailed reasoning as to why one of ordinary skill in the art would attempt to combine the disclosure of Canada with Hartman.

The Minnick reference discloses a lightweight, high strength laminate comprising fiber-reinforced thermoset sheets, lofted fiber-reinforced thermoplastic sheets and a foam core layer. These laminates are disclosed as being suitable for use as prefabricated building panels. Like the primary Hartman reference, these composite panels are used as coverings on a wall structure and not as the wall structure per se. Although this reference also discloses the use of a thermoplastic material to form a matrix to bond fibers together in the composite layer, there is still no disclosure in this reference that would motivate one of ordinary skill in the art to replace the stereoreticulate material layer of Hartman, which must be sufficiently coarse to allow part of the foam layer to be absorbed therein, with the reinforcing

layer of the present invention. As such, Applicant respectfully submits that the Examiner has selected bits and pieces out of the three individual references and combined them to reject the currently claimed invention when, in fact, there is no real motivation to combine the references in the manner suggested by the Examiner without hindsight provided by Applicant's disclosure.

The present invention produces a laminate wall structure which is capable of meeting government regulations with respect to transverse wind loading and yet still have maximum mechanical strength and moisture resistance. Materials with significant bi-directional strength, such as high strength cellulosic layers, woven plastic fibers, cross-laminated plastic films and non-woven or spun bonded plastic fabrics are attached to the face of the wall sheathing material, such as foam sheets or cellulosic boards, to create a suspension system that supports the panel and improves the performance of the entire wall system under extreme vertical wind load conditions which are found in coastal regions. The wall structure of the present invention has a lighter weight, is less expensive and has better insulation properties than materials conventionally being used. The example on pages 6-8 of the present specification shows the high wind loads that the present invention is able to stand up to. The prior art clearly does not suggest that such a result would be obtained by the present invention. Unexpected results and/or unexpectedly improved properties are sufficient to rebut a showing of prima facie obviousness under 35 USC 103. However, Applicant once again wishes to reiterate that the Examiner has not made a showing of prima facie obviousness of the presently claimed invention because the references simply do not suggest combination in the manner suggested by the Examiner.

Reconsideration of the present application and the passing of it to issue is respectfully solicited.

Respectfully submitted,



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